



# Looking to a Future Clean, Resilient, Equitable Grid in New Mexico

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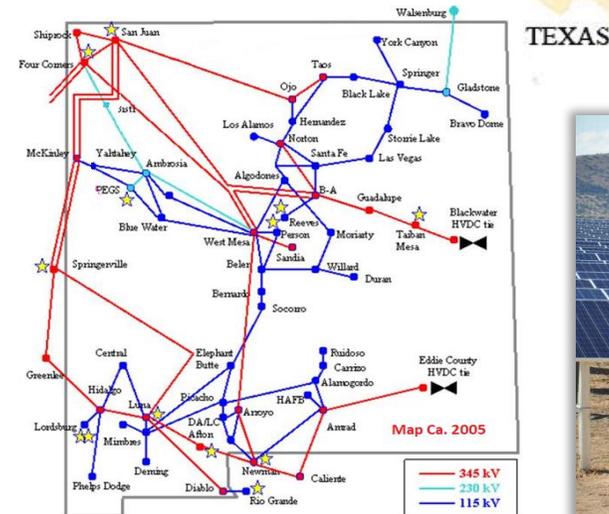
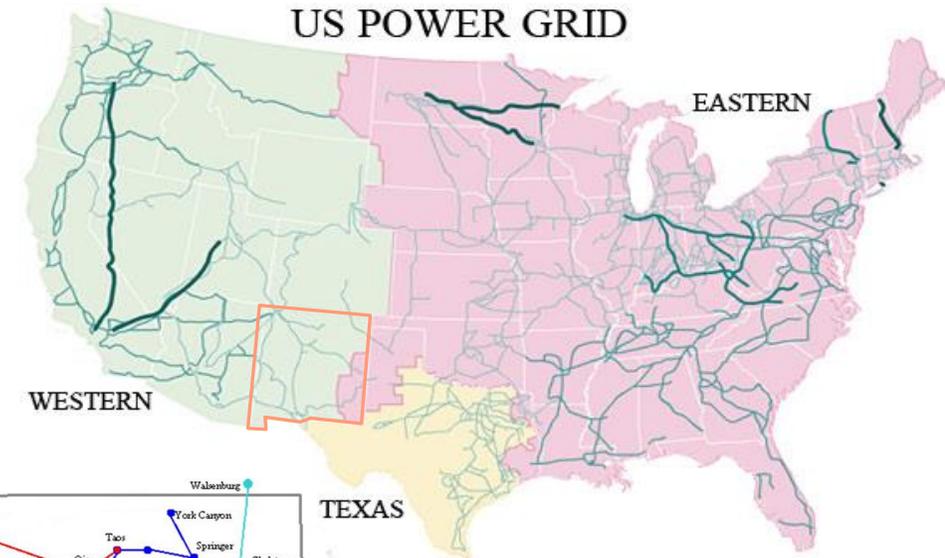


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# Current State of New Mexico's Electricity Sector

- Electrically, NM is “on the edge” of the Eastern and Western Interconnections
  - Relatively weak transmission capacity, far from major regional energy markets
  - We benefit from low cost, high reliability electricity
- Relatively low load within the state
- Abundant solar and wind resources
  - Wind and solar supplied 21% and 5% of electricity demand (2020)
- Water scarcity

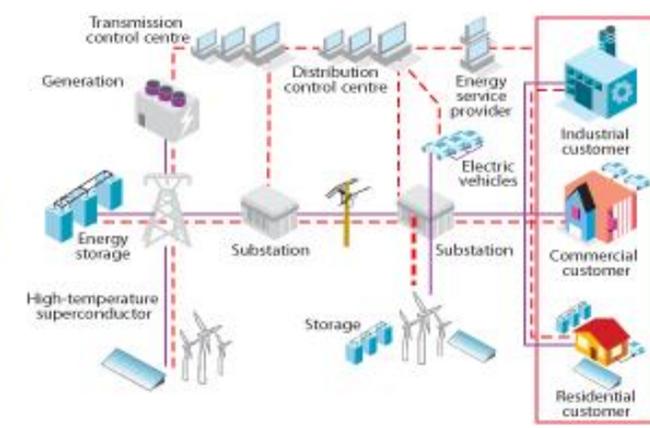
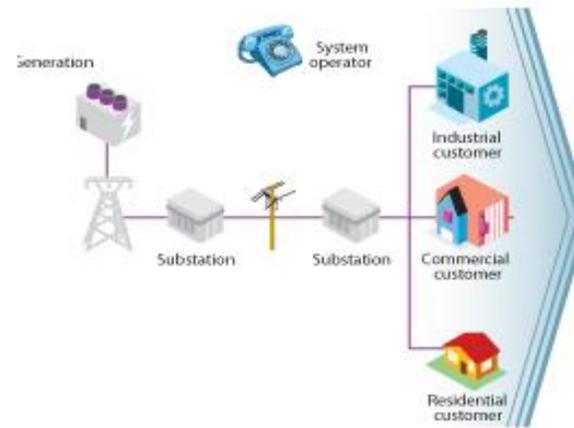
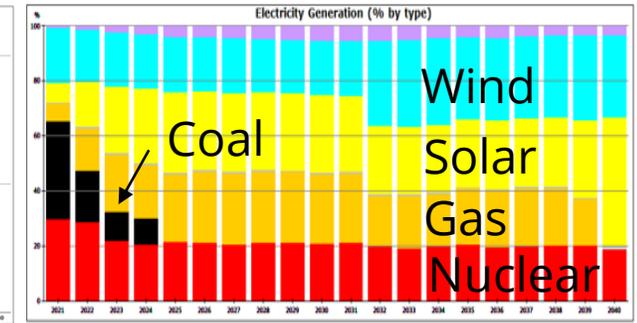
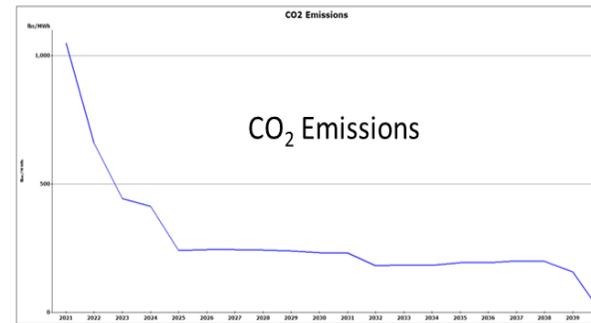
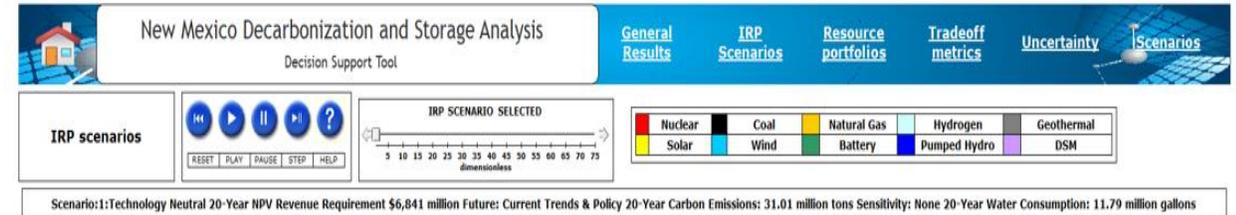




# 100% Carbon-Free Electricity by 2045

## What could it look like?

- Retire coal generation, eventually gas too
- Wind and solar at least 4x present levels
- Maintain nuclear viability
- Deploy energy storage and hydrogen at scale
- Expanded T&D infrastructure and enhanced nodal resilience (microgrids)
- Energy efficiency and demand flexibility
- New regulatory & energy market models



# Dimensions of Energy

Modernizing the grid in a responsible way goes beyond the technical challenges

## SUSTAINABLE SUPPLY



## SECURE & RESILIENT GRID



## EQUITY & ECONOMIC DEVELOPMENT



## What could a rapid energy transition mean for NM?

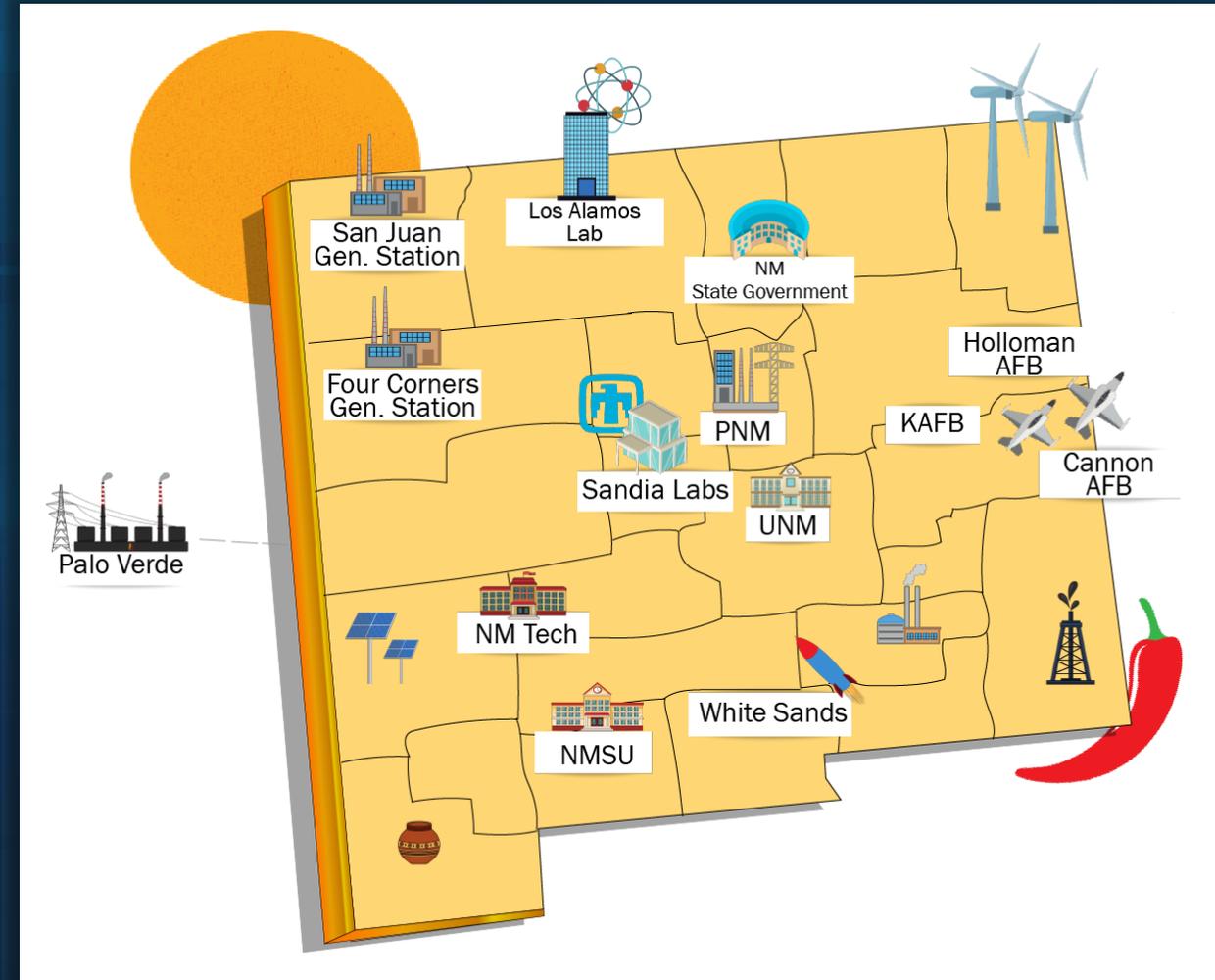
- Maintain status as national energy leader
  - Secure, reliable, resilient, affordable, sustainable electricity
  - Modern grid that enables further energy transformation (EVs, industrial electrification)
- Energy science and technology development and validation
- Equitable economic development

# Sandia In-State Collaborative Research

- NM Small Business Assistance – technical and economic aspects of renewable and transmission expansion
- Advanced microgrids for defense (Kirtland AFB) and civilian resilience
- Equity-based storage demonstrations: ABQ Public Schools, Tribes, communities
- Sandia/PNM CRADA – optimizing storage to meet targets of ETA
- Multi-partner systems-dynamics study on 100% clean electricity in NM
  - Including exploring the nexus between water, agriculture, & energy
- Activities with PRC: energy storage to replace gas peakers; storage studies for resilience; updating DG interconnect manual
- NMSU: pumped hydro with produced water
- Hydrogen infrastructure development
- Cyber security workforce development with NM Co-ops



## A MULTI-STAKEHOLDER PROCESS





# Moving forward...

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- Continue to convene in-state leadership for a cohesive action plan
  - EMNRD Grid Modernization Advisory Group
  - NM Energy Manufacturing Consortium/North American Intelligent Manuf. Initiative
  - PRC workshops and interactions with stakeholder community
  - Academic Community
- Leverage U.S. Department of Energy goals
  - Infrastructure - demonstrations
  - Decarbonization
  - Equity
- Team to build the workforce of the future – emphasize diversity

New Mexico is a national leader for a clean energy future.